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ABSTRACT

The primary objective of this study was to analyze the financial implications of achieving the target of universalization of elementary education in India by 1990. The study first examines the general allocation pattern of resources for Indian education. An analysis of the intra-sectoral allocation among different levels of the educational sector shows a consistent trend of shifting the emphasis from elementary education to other educational levels, especially higher education. An analysis of elementary education in terms of enrollment in different states in the country for the past decades shows that if the past trends guide the future the universalization of elementary education will not be reached by 1990. The resources allocated for education have been grossly inadequate. The required growth rates for each state and their financial implications for the 1980's are estimated. Although finances alone will not ensure universalization of elementary education, more money is a necessary condition to achieve the goal. At least seven percent of Gross National Product should be allocated for education by 1989-90 to realize modest targets in education. (RM)

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Resources for Education in India

Jandhyala B.G. Tilak
and
N.V. Varghese

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Resources for Education in India

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Resources for Education in India

Abstract

Universalisation of elementary education is a basic need and a constitutional directive in the given democratic framework of our country. At the same time, unfortunately this is one of the goals which is not yet achieved, though targets for the same were continuously altered for various points of time, the latest being the year 1990. We identified finances as one of the major constraints in achieving the target. Therefore the attempt of the present study is to look into the financial aspects so as to materialise the goal by the year 1990. In this context we critically review the allocation trends in the past to education in general and elementary education in particular. Side by side, we analysed the performance of elementary education in terms of enrolment in different states of our country for the past decades. From the analysis it is clear that if the past trends guide the future then universalisation of elementary education will be a distant goal even by the presently targeted year. Therefore, we estimate the required (state-wise) growth rates and their financial implications for the present decade. Further we argue that, though finances by itself will not ensure universalisation of elementary education, a larger provision of the same as shown by the projections in the study is a necessary condition to achieve the goal by the targeted year. Quantitatively we find that atleast 7% of GNP should be allocated for education -- 5% from the public exchequer and another 2% from the household sector -- by 1989-90 to realise our modest targets in education.

RESOURCES FOR EDUCATION IN INDIA

Jandhyala B.G. Tilak
M.V. Varghese

"I am struck ..... with the relatively meagre resources which is devoted to problem of human learning, in spite of the fact that this is the core of virtually all developmental process" (Kenneth Boulding, 1966:106-7).

"....many hard choices will have to be faced and risks taken. But in an age of science, there can be no greater risk than a policy of drift and niggardliness in education". (Education Commission 1966: 692).

1. The Problem

Inadequacy of resources forms an important bottleneck in realising any of the plan targets. Elementary education suffered in India due to, apart from several factors, insufficient allocation of financial resources. While finances are an important constraint, we are aware of the fact that it is not the constraint, but is only one among many. Finances provide the necessary and not the sufficient condition in fulfilling the plan targets. The paper, attempts at closely scrutinising in this framework, the allocation of financial resources to and within education sector in India and in some major States of the country.[1] While the Kothari Commission (1966) hoped that the expenditure on education would be gradually raised to 6% of GNP by 1965-66, it is being increasingly felt that "the total educational expenditure needed for a national system of education with adequate coverage and quality will have to be worked out afresh" (Naik, 1962 : 194). Hence in this paper we proceed to estimate the resources required for education sector to realise some of our modest targets in education in India in near future.

The body of the paper is organised as follows: the following section presents a brief analysis of educational expenditure in India during the post-independence period, followed by an analysis of the pattern of intra-sectoral allocation of resources within education in Section 3. These two sections serve as the main background for a thorough discussion on our achievements with regard to universalisation of elementary education in Section 4. Section 5 would be devoted to (a) an analysis of the prospects for 1980s of universalisaton of elementary education for 1980s, if the existing

pattern of growth in enrolments continues and (b) if universalisation is to be achieved by 1990, what should be the rate of growth in enrolments, expenditures, etc. This will be followed by a discussion on the financial implications of the latter scenario (b-above) in section 6. Section 7 presents a brief summary of our findings and their implications along with the limitations of the study.

2. Analysis of Educational Expenditure in India

Sources of financing educational system can be broadly divided into two categories ---- the domestic and the external. External resources constitute only a small proportion of the total expenditure. The domestic resources flow from two sources ---- from the public exchequer and from the private individuals. In fact, the distinction between private and public sources of financing is very important to understand the total investments in education. There is to some extent an element of complementarity between these two types of sources of financing. This is a unique feature of investment decisions in education that the total investment is the result of the decisions taken at two domains: at the domain of the individual and at the domain of institutions or society (Majumdar, 1965). However, very often because of lack of adequate information regarding the reactions of individual domains, the analysis on educational expenditure is confined to that share which is spent by the public exchequer.

A glance at the public expenditure on education shows that over the years it has increased as a proportion of the GNP. At the inception of planning (1950-51) India was spending 1.4% of GNP and by 1979-80, this proportion increased to 3.9%. (Table 1) However, in some states like Bihar and West Bengal this proportion remained more or less constant during the recent past (1960-61 to 1975-76) and it is 2.4% in these two states ---- the lowest among the major stateses can be noticed in Table 2. In absolute terms this increase at national level was more impressive: the educational expenditure increased by about 30 times from Rs.1144 million in 1950-51 to Rs.35000 million in 1979-80. In per capita terms this increased by 17 times only. Starting from a very low figure of Rs.3.2 per capita in 1950-51 we reached a figure of Rs. 53 per capita by 1979-80. In contrast, the expenditure per pupil increased only by 7.5 times during this period from Rs. 44.53 to Rs. 337.50. The figures as they stand may provide a seemingly distorted picture, unless supported by the other features of expenditure.

Table 1

Expenditure on Education in India

(Rs. in 10 millions)

Year	GNP at current prices	Expenditure on Education	Educational expenditure as proportion of GNP(%)
(1)	(2)	(3)	(4)
1950-51	9157	114	1.2
51-52	9515	125	1.3
52-53	9324	138	1.5
53-54	9993	148	1.5
54-55	9174	165	1.8
55-56	9720	190	2.0
56-57	11209	206	1.8
57-58	11237	241	2.1
58-59	12650	266	2.1
59-60	13090	300	2.3
60-61	13999	344	2.5
61-62	14799	396	2.7
62-63	15727	442	2.8
63-64	17978	484	2.7
64-65	21113	535	2.5
65-66	21866	622	2.8
66-67	25250	698	2.8
67-68	29612	811	2.7
68-69	30293	898	3.0
69-70	33521	1010	3.0
70-71	36452	1118	3.1
71-72	38972	1285	3.3
72-73	42939	1373	3.2
73-74	53447	1450	2.7
74-75	62972	1807	2.9
75-76	66139	2105	3.2
76-77*	71826	2349++	3.3
77-78*	81105	2719++	3.4
78-79*	86927	2960++	3.4
1979-80**	90173+	3500+	3.9

Note : * Provisional estimates
+ Quick estimates

Sources : ++ Trends of Expenditure on Education 1968-69 - 1978-79

**Analysis of Budget Expenditure on Education 1979-80 - 1981-82

Col.- 1. Eastern Economist (Annual Number 1982)
Col.- 2. Education & Allied Statistics (New Delhi, Ministry of Education, 1980)

Firstly, these figures are given at current prices and in that sense the apparently impressive picture gets belittled if they are converted into constant prices. During this period the wholesale price index increased from 114 to 493 while the index of educational expenditure increased from 100 to 674. In other words, while the educational expenditure at current prices in India showed a compound rate of growth of 12.5%, in real terms[2] the rate of growth is only 8.7% as shown in Table 3. It may be noted that in West Bengal the rate of growth in real terms is as low as 2.4% compared to 9.1% at current prices as can be seen in Table 4.

Secondly, even though the educational expenditure as a proportion of GNP showed an increase during this period, this share is quite low when these figures are compared with that of the other less developed countries.[3] Moreover, these proportions at national level and also the proportions in almost all states, excepting Kerala, Himachal Pradesh and Tripura are far below the 6% norm specified by the Kothari Commission (Education Commission, 1966), and adopted by the Government of India in the National Policy on Education (1986).

Third and perhaps more important is the question regarding how far this increase in expenditure was able to induce private individuals to spend on education so that the total investment in education can be increased. In a country like India unless the public expenditure is matched, equally or more with expenditure by the individual concerned, spread of education becomes difficult.[4] While there exists no direct mechanism to estimate this aspect it is generally believed that parents and students respond more promptly than public bodies do to educational needs (Schultz, 1981 : 44). It may be noted from Table 5 that the household expenditure on education increased at a rate of growth of 9.9% during the 1970s (1970-71 to 1979-80) from Rs. 8960 million to Rs. 202920 million.[5] During the same period, the public expenditure on education, however increased from Rs. 11160 million to Rs. 95000 million, at a rate of growth of 13.5% per annum. The coefficient of correlation between the two, to the extent it explains the relationship between the two, indicates that the relationship between the two is strong and positive, the value of the coefficient being 0.9629.

The discussion till now shows only the overall expenditure on education. But it will be more interesting and useful to know the nature of intra-sectoral allocation within education. This, perhaps, may be able to provide some insight into the differential growth rates felt in different levels of our educational pyramid.

Table 2

Educational Expenditure as Percentage of S D P

State	1950-51	1975-76	Per Capita in 1975-76 (Rs)
(1)	(2)	(3)	(4)
Andhra Pradesh	2.3	2.6	25
Assam	2.2	2.8	29
Bihar	2.3	2.4	17
Gujarat	2.3	3.3	41
Haryana	-	2.7	35
Himachal Pradesh	-	6.2	65
Jammu & Kashmir	2.2	4.5	40
Karnataka	2.8	3.9	35
Kerala	4.2	6.3	60
Madhya Pradesh	2.3	4.8	37
Maharashtra	3.0	3.7	51
Orissa	1.9	3.3	20
Punjab	2.7	3.7	60
Rajasthan	2.4	3.4	29
Tamil Nadu	2.8	4.2	37
Tripura	-	5.5	49
Uttar Pradesh	2.2	3.7	27
West Bengal	2.8	2.4	25

Note : - Not available.

Table 3

Expenditure on Education in India at Constant (1970-71) and Current Prices

(Rs. in 10 millions)

Year	At constant prices	At current prices
(1)	(2)	(3)
1950-51	240	114
1955-56	465	190
1960-61	624	344
1965-66	856	622
1970-71	1118	1118
1975-76	1217	2105
1979-80	1606	3500
Rate of Growth	6.7%	12.5%

Table 4

Educational Expenditure at Current and Constant Prices

(Rs. in Millions)

State	At Current Prices			At Constant Prices		
	1960-61	1975-76	Rate of Growth(%)	1960-61	1975-76	Rate of Growth(%)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Andhra Pradesh	257	1204	10.8	257	444	3.7
Assam	90	465	11.8	90	173	4.4
Bihar	220	1055	10.8	208	383	3.2
Gujarat	190	1237	13.3	190	424	5.5
Jammu & Kashmir	20	205	17.0	20	77	9.4
Karnataka	177	1120	13.1	177	545	7.8
Kerala	194	1356	14.1	194	456	6.5
Madhya Pradesh	202	1750	15.5	202	612	7.7
Maharashtra	469	2765	12.3	469	968	4.8
Orissa	75	636	15.5	75	230	7.5
Punjab	166	675	10.8	166	305	3.5
Rajasthan	127	855	13.4	127	299	5.5
Tamil Nadu	318	1651	11.5	318	666	5.2
Uttar Pradesh	397	2549	13.3	397	899	5.8
West Bengal	341	1250	9.1	341	424	1.4

Table 5

Household Expenditure on Education in India

(Rs. in Millions)

Year	At Current Prices	At 1970-71 Prices
(1)	(2)	(3)
1970-71	6500 (2.5)	6500 (2.5)
1971-72	9520 (2.5)	9380 (2.5)
1972-73	10920 (2.5)	9840 (2.6)
1973-74	12600 (2.4)	10360 (2.7)
1974-75	11710 (1.9)	8400 (2.2)
1975-76	12530 (1.9)	8440 (2.0)
1976-77	14400 (2.0)	8680 (2.0)
1977-78	15370 (1.9)	8570 (1.8)
1978-79	16480 (2.1)	8970 (1.8)
1979-80	20920 (2.2)	9060 (1.9)
Growth Rate	9.5%	6.2%

Source : National Accounts Statistics 1970-71 - 1979-80
February 1982 (New Delhi, C.S.O., 1982)

Note : Figures in brackets are % of GNP

5. Intra-Sectoral Allocation of Resources

An analysis of intra-sectoral allocation of resources in India during the plan period shows a lopsided emphasis on different layers of education. A clear cut shift in the priorities is quite obvious from the figures in Table 6.

In the first plan, 56% of the total plan resources to education were allocated to elementary education, 13% to secondary, 5% to university education and 1% to technical ducation. The allocation to elementary education came down drastically in the subsequent plans. The figures reached a lower limit of 17% in the annual plan of 1966-67. At the same time expenditure on other levels shows an increment. In the first plan only 13% of the total educational expenditure was meant for secondary education and by second plan it increased to 19%, where as that for university level doubled between the first and the second plans and trebled between the first and the third plans.

All this may present a partial picture because non-plan expenditure which does not figure in Table 6 is also equally important. The non-plan expenditure is not only many times larger than the plan expenditure the growth rate is also high: compound rate of growth of 14.6% compared to 11.5% in the plan expenditure during the last 30 years (See Table 7).

But the trends in total, plan plus non-plan, expenditure are also the same. The share of primary education in the total direct educational expenditure, plan and non-plan combined together, also showed similar steep decline as shown in Table 7. It declined from 40% in 1950-51 to 25% in 1975-76. At the same time the share of higher education showed phenomenal increase from 20% in 1950-51 to 30% in 1975-76.

Further, if we consider the rate of growth of direct penditure on different levels, it again tells us the same story. The rate of growth of expenditure was higher at the higher levels of education and lower at lower levels. For instance, the compound rate of growth of direct expenditure on primary education between 1950-51 to 1975-76 is only 10.5% where as that of the higher education for the same period was 4.5%.

As evident from the Table 6, we can divide the plan period into three phases depending on the pattern of allocation of resources to

Table 3

Intra-Sectoral Resource Allocation in Education in India during the Plan Period

(Rs. in 10 millions)

Educational Level	First Plan	Second Plan	Third Plan	Fourth Plan	Plan Holi-day	Fifth Plan	Sixth Plan
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Elementary+	65 (58)	95 (38)	176 (30)	65 (20)	235 (29)	410 (32)	906 (36)
Secondary	20 (15)	51 (19)	103 (18)	53 (16)	116 (14)	250 (19)	450 (18)
University	14 (9)	48 (18)	87 (15)	77 (24)	184 (22)	292 (23)	488 (19)
Other (General)++	14 (9)	30 (10)	116 (16)	46 (15)	161 (20)	140 (10)	457 (18)
Total - General	133 (87)	224 (82)	484 (79)	241 (75)	697 (85)	1092 (85)	2247 (89)
Technical	20 (13)	49 (18)	125 (21)	81 (25)	125 (15)	196 (12)	276 (11)
Grand Total	153 (100)	273 (100)	589 (100)	322 (100)	823 (100)	1285 (100)	2524 (100)

Note : + includes pre-school education
++ includes teacher education, social education (youth services), cultural programmes etc.

Figures in brackets are percentages to total.

Source : Education in the Fifth Five Year Plan 1974-79
Fifth Five Year Plan 1974-79
Sixth Five Year Plan 1980-85

Table 7

Trends in Intra-Sectoral Resource Allocation in Education in India

(Rs. in Millions)

Year	Direct Expenditure on						Total Indirect Expenditure	Grand Total
	Primary	Middle	Secondary	School (Profl.)*	Higher	Total		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1950-51	366 (40)	77 (8)	231 (25)	60 (7)	164 (20)	921 (100)	232	1,153
1955-56	540 (37)	154 (11)	378 (26)	81 (6)	293 (20)	1446 (100)	445	1,891
1960-61	630 (25)	429 (17)	669 (27)	146 (6)	565 (22)	2573 (100)	870	3,444
1965-66	1213 (26)	610 (13)	1504 (32)	105 (2)	1241 (27)	4673 (100)	1192	5,865
1970-71	2365 (25)	1709 (18)	2700 (28)	126 (1)	2709 (28)	9611 (100)	1572	11,183
1975-76	4463 (25)	3410 (19)	4636 (25)	266 (1)	5410 (30)	17525 (100)	3122	21,047
Annual Compound Growth(%)	10.5	16.4	12.6	5.1	14.5	12.6	11.1	11.2

Source : Education in India Vol. I (different volumes)

* Includes professional, technical, vocational and special types.

education viz., Phase I : 1951-56, Phase II : 1956-66 and Phase III : 1966 and after. Phase I witnessed a substantial part, nearly 3/5, of the total plan educational resources, being alloted to primary education and only 1/11 of the resources to higher education, i.e. high priority was given to elementary education and a low priority to higher and technical education. Phase II showed a drastic decline of resources allocated to primary and a doubling or trebling of the resources allocated for university education. In fact, the expenditure on higher education reached a proportion of 24% by 1967-68 and that of technical education 29% by 1966-67, while the corresponding figure for elementary education showed a decline from 56% in first plan to 17% in 1966-67. Phase III i.e. period after 1966 showed a slight reversal of these trends. The proportion of primary education showed an increasing trend and that of university and technical education showed a gradual decline.

The resources to secondary education showed that after an initial jump from 13% to 19% between the first and the second plans it got relatively stabilised. However, it is to be noted that though Phase II showed marginal improvements so far as elementary education is concerned, it has yet to go a long way to reach the proportion that it obtained in the first plan. As we show later, had the pattern of intra-sectoral allocation of resources in educational sector adopted in the first five year plan continued, universalisation of elementary education would have been an easy task, if not already accomplished.

Increasing allocation of resources to higher education by itself is not an unhealthy trend,

a) if in the initial period educational expansion has taken place substantially at lower levels,

b) if the economy is facing acute shortage of highly qualified manpower, and

c) above all, if it is not at the expense of education at lower levels.

In the case of India, it is doubtful to see whether any of these arguments stands good: firstly, the base of our educational pyramid is not adequately broad; secondly we face unemployment of the educated; and thirdly, increasing allocation for higher education resulted in a reduction of resources to primary education.

This distorted pattern of resource allocation has other socio-political implications also. Our experience in India is that students to higher education are heavily drawn from the better socio-economic backgrounds and that for lower levels belong to lower and lower income groups. In this context a distorted and a disproportionate increase of resources to higher education has two implications :

a) it enriches the richer sections by transferring the resources in favour of them. This is doubly true when higher subsidies exist at higher educational level, and

b) it restricts the entry of the masses to the formal education system since higher education is expanding at the expense of lower education sector. Education being one of the important factors in occupational entry and job-mobility such a policy will be regressive.

Politically in a democratic set-up education of the masses should be the primary focus. A real political framework of democracy becomes meaningless when the mass of people are kept in a state of 'blissful ignorance'. Above all, the pattern of allocation described above goes against the proclaimed objectives of the nation enshrined in the Constitution. Further, it is necessary to note that "the loss of economic welfare by the total society as a result of complacently following existing trends rather than trying to allocate educational resources most efficiently may be as large as the cost of the total budget of education" (Dougherty & Psacharopoulos, 1977 : 457).

To sum up, the structure and pattern of distribution of resources to education in India produced many undesirable results which may be briefly noted below:

1. The country is still far away from the Constitutional directive of universalisation of elementary education which was expected to be fulfilled more than two decades ago. This itself is one of the most conspicuous failures of our educational policy and the allocation pattern resulting therefrom.

2. Another equally important failure is the growing illiteracy in our country. Since the rate of literacy is growing at a snail's pace, the country has been becoming more and more illiterate. At present India ranks first in terms of number of illiterates in the world.

Table 8

Plan and Non-Plan Expenditure on Education in India

(Rs. in 10 millions)

Year (1)	Plan Expenditure (2)		Non-Plan Expenditure (3)		Total (4)	
1950-51	20	(28)	51	(72)	71	(100)
1960-61	90	(38)	144	(62)	234	(100)
1965-66	176	(41)	259	(59)	437	(100)
1970-71	115	(14)	731	(86)	846	(100)
1973-74	225	(17)	1086	(83)	1311	(100)
1977-78	324	(14)	1991	(86)	2315	(100)
1978-79	413	(16)	2245	(84)	2658	(100)
1980-81	520	(14)	3226	(86)	3746	(100)
Rate of growth (%)	11.5		14.8		15.0	

Source : K.K. Bhandari (1982), and for others Planning Commission (1976)

Table 9

Public Expenditure per Pupil in India

(Rs. per annum)

Year (1)	Primary (2)	Middle (3)	Secondary (4)	Universities & Institutions of Higher Education (5)	Colleges (6)	Colleges (P) (7)
A. At Current Prices						
1950-51	19.9	37.1	72.9	1905.6	231.2	779.2
1960-61	27.6	40.5	91.7	2524.2	302.4	813.4
1970-71	57.0	84.9	168.4	4141.2	421.6	1179.0
1975-76	55.9	114.2	257.7	5993.6	572.5	1539.9
B. At Constant (1970-71) Prices						
1950-51	41.9	78.1	155.5	4011.7	486.7	1640.4
1960-61	50.1	73.5	166.4	4581.1	548.6	1476.2
1970-71	57.0	84.9	168.4	4141.2	421.6	1179.0
1975-76	55.2	83.3	140.9	3064.5	330.9	890.1

Source : A: Kapoor (n.d.)
B: Computed by the present authors using all-India whole sale price index.

however in terms of number of literates also India ranks fairly high. But if we were to rank by the percentage of literacy, India figures at the bottom.

3. The quality of education is coming down at an increasing rate which paves the room for devaluation of education and disgust to the educated.

4. The unbalanced growth of education at different layers result in unemployment of educated. This imbalance is true in at least two senses. first, the growth pattern shows an imbalance within the educational sector; second, there developed imbalance between the absorbing capacity of the economy in terms of employment generation and the rate of growth of education especially at higher levels making the problem of unemployment more severe.

Though all the problems listed above are equally important, in our further analysis we confine ourselves to the first problem namely the universalisation of elementary education. Before we go to the next section, it is necessary to note that while public expenditure per pupil on every level of education increased by several times during the last 25 years as evident from Table 5, the 'real' expenditure per pupil on all levels of education declined during the same period. While the real expenditure per pupil increased marginally during short phases, over the long period i.e., 1950-51 to 1975-76, this has declined suggesting that we are increasingly spending less and less amount of resources per pupil on education. However, when we analyse by levels of education, we notice that higher education suffered the most. In fact there is a marginal increase in real expenditure at primary and middle levels of education during this 25 year period. The effect of price inflation effected adversely the higher education more significantly that any other level i.e., the real expenditure per pupil declined more at higher levels of education and within higher level it is the professional education which suffered most. Nevertheless it should be noted that in absolute terms the expenditure per pupil both at constant and current prices, is much higher at higher levels of education than at lower levels of education at any point of time and the expenditure per pupil at higher professional level has been two-three times higher than those at higher general level. However to view it as a hidden mechanisim of different allocation pattern of resources away from higher education may not be totally right.

4. Universalisation of Elementary Education

Elementary education is considered to be a 'basic' human need or a 'minimum' human need, as it "equips people with fundamental knowledge, skills, values, and attitudes and enhances their capacity to change and their willingness to accept new ideas" (Noor, 1981 : 2)." Elementary education is also an essential means of meeting other 'core' basic needs like adequate nutrition, clean drinking water, health-care etc. It is not difficult to visualise the spiralling influence of elementary education on meeting other basic needs.[7]

The importance of elementary education in India has been clearly recognised as early as at the beginning of the century. Gopal Krishna Gokhale moved a bill for compulsory primary education in 1912. The constitutional makers of the independent India made it a part of the Directive Principles of the Constitution. Every plan document highlighted the importance and necessity of universalisation of elementary education. Recently elementary education has been included as an important item in the 'Minimum Needs Programme' of the Five Year Plans.

Section 45 of Part IV of the Constitution of India laid down a 10-year time-frame for fulfilling universalisation of elementary education. Nearly two decades after the specified deadline (changed twice since then), the picture is not wholly satisfactory. No doubt, the ratios have been doubled over the period. From the enrolment level of 20% of the children in the age-group 6-14 when the Constitution came into force, latest figures suggest a more than doubling of the ratio of 60% in 1979-80 (see Table 10). In other words, 32% of the children in 1980 were still non-participants in the universal compulsory elementary level of education. In absolute figures the country is having today a larger number of non-participants in the elementary level of education compared to 1951 or even 1911 as we see in Table 11. The actual number of children not attending the schools was 55.3 million (in the age-group 6-14) in 1978 (NCERT, 1980), as compared to 45.2 million in 1951 (Prasad, 1984). It is distressing to note that the average annual rate of growth of number of non-enrolled children in India was 0.45% during the Plan-era (1951-78), compared to 0.26% during the Pre-Independence period (1911-1951). The rapid growth of population in the Independent India may be an important factor responsible for this. Nevertheless, this reflects "the most conspicuous failure of the Indian educational system" (Kurien, 1981).

Table 10

Progress of Universalisation of Elementary Education
(Gross Enrolment Ratios)

Year	Primary (6-11 Age Group)			Middle (11-14 Age Group)		
	Boys	Girls	Total	Boys	Girls	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1950-51	60.6	24.8	42.1	20.6	4.8	12.9
51-52	60.6	25.1	43.3	21.6	4.9	13.3
52-53	61.9	26.1	44.4	23.7	5.3	14.6
53-54	64.8	27.9	46.7	23.6	5.9	15.1
54-55	68.1	29.9	49.4	24.5	6.4	15.8
55-56	62.0	32.8	52.8	25.4	6.9	16.5
56-57	73.7	34.5	54.5	26.4	7.7	17.3
57-58	76.1	36.2	56.7	29.2	8.8	19.3
58-59	76.0	37.5	57.3	30.2	9.7	20.7
59-60	81.4	40.5	61.5	30.5	10.2	20.7
60-61	80.9	42.0	62.0	36.4	12.4	24.7
61-62	87.4	47.6	67.8	38.7	13.5	26.4
62-63	90.6	49.8	70.9	42.1	15.2	29.0
63-64	92.6	50.8	72.8	40.4	14.9	27.9
64-65	95.7	54.7	75.5	42.3	16.1	29.4
65-66	96.3	56.5	76.7	44.2	17.0	30.8
66-67	96.3	57.6	77.4	45.1	17.9	31.7
67-68	96.3	59.2	78.2	46.5	18.8	33.0
68-69	95.5	59.5	78.1	47.0	19.4	33.5
69-70	95.1	60.0	78.1	47.0	19.8	33.6
70-71	95.5	60.5	78.6	46.3	19.9	33.4
71-72	96.7	61.7	79.6	46.3	20.4	33.7
72-73	100.4	65.1	83.3	46.8	21.4	34.4
73-74+	101.0	66.0	84.0	46.0	22.0	36.0
74-75	101.0	65.9	84.0	47.7	23.0	35.6
75-76	100.4	66.1	83.9	46.6	23.9	36.7
76-77	99.2	64.7	82.4	47.8	24.0	36.3
77-78	99.3	65.4	82.8	49.7	25.3	37.9
78-79	100.7	67.8	84.5	49.4	26.0	38.0
1979-80*	100.2	65.9	83.6	52.0	27.7	40.2

Sources : Education in India (various volumes)
+ Draft Five Year Plan 1978-83
* Sixth Five Year Plan 1980-85

Table 11

Non Participants in the age group 6-14 in Education in India

Year (1)	Non-Participants (in million) (2)	% of total population (6-14 age-group) (3)
1911	44.14	60.5
1951	49.18	71.5
1961	47.94	54.2
1973	44.0	37.8
1976	55.3	42.1

Source : Prasad (1964)
NCERT (1978 and 1980)

Table 12

Actual and Official Enrolment Figures (1979-80)

Level (1)	Official			Actual		
	Enrolment (ratio) (%) (2)	Enrolment (million) (3)	Non-Enrolled (Millions) (4)	Enrolment (ratio) (%) (5)	Enrolment (million) (6)	Non-Enrolled (Millions) (7)
Primary	81.3	70.9	15.7	61.4	53.2	33.4
Middle	39.4	16.7	36.0	23.0	11.2	37.5
Elementary	66.2	89.6	45.7	47.6	64.4	70.9

In absolute terms, enrolment at elementary level increased from 22 million in 1950-51 to 91 million in 1979-80 at an annual compound rate of growth of 10.5%. However, it should be noted that the rates of growth declined consistently over the three decades of planning. At the primary level the rate of growth of enrolment declined from 6.22% during 1951-60, to 5.66% during 1961-70 and to as low as 2.49% during 1971-77.[8]

The 'gross' enrolment ratio[9] at primary level increased from 42.1% at the inception of planning to 83.6% in 1979-80, and the ratio at middle level increased from 12.9% to 40.2% during the same period (Table 10). In relative terms, we may find thus considerable progress, but not at all adequate progress.

Further if we relate the growth of enrolment to the rate of growth in teachers, we find that the number of pupils per teacher went on increasing, pushing down consistently the quality of education. The index of enrolment at primary level increased to 505 in 1970-71 (with 1950-51 as the base = 100), while the index of teachers increased from 100 to 159 during the same period, thus increasing the average number of pupils per teachers from 35 to 54 during this period and pushing down the quality of education. Further it has been found that with respect to both qualitative and quantitative aspects, the rural children suffered the most.[10]

Thus the spectacular growth in absolute enrolments could not result in similar spectacular growth in literacy nor in the accomplishment of universalisation of elementary education, mainly because of high rate of drop-out-cum-relapse into illiteracy about 60% dropout between Classes I and V and about 75% between Classes I and VIII.

5. Universalisations of Elementary Education : Prospects for 80's

It was shown in the earlier section that we have miles to travel to reach the target of universal elementary education. In this section we will try to see how bright are its prospects in the present decade.

By 1984-85 i.e. by the end of the sixth plan the total number of children in the age group 6-14 is expected to increase to 157.7 million.[11] The Planning Commission fixed the target of enrolling 16 million children additionally. The enrolment target fixed accordingly is 100.2 million (62.6 million at primary and 26 million at middle) to

be realised by the end of sixth plan as against the actual position of 96.4 million in 1979-80. This again leaves a gap of 29.7 million children out of school, according to the plan estimates.

Given the growth rate that we experienced in the seventies, this again requires an increase in the enrolment both in absolute terms and in growth rates. To achieve the target it requires an average increase of 3.6 million additional enrolment per annum. The task becomes really difficult when we consider the fact that the growth in enrolment during 1975-76 was only 2.3 million per annum.

If the projections are modified based on 1961 Census (Plan projections are based on 1971 Census), we get a slightly different picture. Based on 1961 Census the number of children in the age group 6-14 would be 148 million. This shows that even an optimistic assumption that the plan targets would be achieved, keeps 40 million children outside the school system by 1984-85.[12] Based on this, an optimistic estimate of enrolment ratio in 1984-85 would be 87.8% in age group 6-11 and 47.6% in the age group of 11-14 and on the whole 73.2% in the age group 6-14. The corresponding figures projected by the Planning Commission are 95.2%, 50.3% and 76.8% respectively. This shows that the targets put forward for the first half of the present decade will drastically fall short of achieving. There will be a gap of not less than 40 million children. Even if the Sixth Plan targets are achieved, it is extremely doubtful whether it would be possible to cover 50% of remaining children in the age-group 11-14 and 5% of children in the age-group 6-11 during the 7th plan period unless extremely serious efforts and resources are put in. Thus if we consider the prospects of universalisation of elementary education for the remaining period of the present decade, the picutre is very gloomy. The projected population in the age-group 6-14 in the year 1991 is 143.7 million.

Until now we are concerned with 'gross' or official enrolment ratios. Sen (1971) and ABAC (1972) had long ago showed that the actual enrolment ratios are much below the official figures. Recently Aurich (1981) has estimated the variation between the two. Using Aurich's estimates that the gross enrolment ratio at primary level is 25% higher than the actual (adjusted for age-groups) enrolment ratio, and it is 40% higher at middle level, we have estimated the actual enrolments and enrolment ratios in 1979-80 in India.[13] The same all India differentials are used to estimate the actual enrolments and

Table 13

Adjusted and Unadjusted Enrolment Ratios in Elementary Education in India, 1979-80

State	Unadjusted		Adjusted	
	Primary	Middle	Primary	Middle
(1)	(2)	(3)	(4)	(5)
Andhra Pradesh	80.3	20.9	80.2	12.5
Assam	67.3	35.8	50.5	21.5
Bihar	74.4	22.9	55.8	13.7
Gujarat	101.3	47.3	76.0	28.4
Haryana	71.4	43.3	53.5	26.0
Himachal Pradesh	100.5	61.2	80.2	36.7
Jammu & Kashmir	72.3	40.2	54.2	24.1
Karnataka	91.0	37.7	68.3	22.6
Kerala	101.5	88.3	76.4	53.0
Madhya Pradesh	63.1	30.6	47.3	18.4
Maharashtra	111.4	46.4	83.6	27.8
Orissa	81.3	30.7	61.0	18.4
Punjab	111.4	56.1	83.6	34.5
Rajasthan	56.6	28.5	42.5	17.3
Tamil Nadu	113.7	51.8	85.3	31.1
Tripura	72.5	35.1	58.1	21.1
Uttar Pradesh	68.7	36.8	51 5	22.1
West Bengal	81.2	33.2	60.9	19.9

Source : Selected Educational Statistics in India 1979-80
Adjusted : See the text.

Table 14

Estimates of Enrolled (adjusted) and Non-Enrolled Children in India, 1979-80

(Figures in 000's)

State	Enrolment			Non - enrolled		
	Primary	Middle	Elementary	6-11 age group	11-14 age group	6-14 age group
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Andhra Pradesh	3834	3599	7433	2526	3390	5916
Assam	1324	1960	3284	1396	1134	2530
Bihar	4044	5310	10154	3636	4173	8005
Gujarat	3075	2660	5735	972	1669	2641
Haryana	672	1016	1688	745	736	1481
Himachal Pradesh	384	295	679	95	182	277
Jammu & Kashmir	363	456	833	324	306	630
Karnataka	3100	2626	5726	1441	2025	3466
Kerala	2426	2099	4525	250	1046	1296
Madhya Pradesh	3571	4271	7842	3579	3301	6880
Maharashtra	6145	4105	10250	1205	3204	4409
Orissa	2011	2054	4065	1205	1501	2786
Punjab	1551	1146	2697	304	744	1048
Rajasthan	1535	3147	5682	2619	2039	4658
Tamil Nadu	4675	3326	8001	865	2351	3156
Tripura	180	166	346	115	119	234
Uttar Pradesh	6964	8726	15710	6576	5906	12482
West Bengal	4542	5046	9588	2917	3180	6097

Source : Select Educational Statistics at a glance 1979-80.

enrolment ratios in the states and they are given in Tables 12 and 13. As we notice in these tables this adjustment pushed down the enrolment ratios as well as absolute enrolments very steeply.

Thus now 70.9 million cildren (52.4%) in the age-group are outside the school system. Among the states, Uttar Pradesh tops the list in the number of non-enrolled cildren followed by Bihar and Madhya Pradesh. 40% of the total non-enrolled children in the country are concentrated in these three states. In fact we find that 71% of the total non-enrolled children in the country are in the 9 recognised educationally backward states viz., Andhra Pradesh, Assam, Bihar, Jammu & Kashmir, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh and West Bengal. Hence it is rightly said that the problem of universalisation of elementary education in India is essentially the problem of these 9 states as we find in Table 14. In fact, many a study on inter-state inequalities in educational development classified these states as backward or below average. (e.g. see Tilak, 1975).

It can be noted, that the gross enrolments at primary and middle levels increased during the 1970s at a rate of growth of 2.8% and 3.3% respectively (the overall rate of growth of elementary education being 3.0%) at the national level. Let us assume that the rate of growth is the same for the adjusted enrolments also. Then if the same rate of growth continues in the 1980s, we find that the enrolment at primary and middle levels will be respectively 70.12 million and 15.50 million, thus leaving 20.3 million children in the age group 6-11 and 37.6 million in the age group 11-14 outside the school system.

It is distressing to note that despite the gigantic task being faced in almost all the states, no significantly satisfactory progress has been made during the 1970s in various states. In Uttar Pradesh where the situation is most severe, the rate of growth in enrolments in primary education is negative. If the rate of growth realised during 1960-61 to 1979-80 in Uttar Pradesh (4.4%) continues during the 1980s (which itself is an ambitious assumption particularly in relation to the negative growth rate experienced during the 1970s),[14] 11 million children in Uttar Pradesh alone will remain outside the school system in 1989-90 (Table 15). Our estimates indicate that if the existing rates of growth continue even by 1989-90 we will be very much far away from the goal of universalisation in many states. In fact, in states like Assam, Rajasthan and West Bengal, we will end up with more non-enrolled children than the existing number of non-enrolled children.

Table 15

Likely Enrolment in Elementary Education in India, 1969-90
(at the realised 1970-71 - 1979-80 growth rates)

(Figures in 000's)

State	Primary		Middle		Elementary	
	Enrolment	Non-Enrolled	Enrolment	Non-Enrolled	Enrolment	Non-Enrolled
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Andhra Pradesh	5203	1144	579	3020	5782	4164
Assam	1766	1925	413	1547	2201	3472
Bihar	7615	1399	865	4445	8480	5844
Gujarat	4178	421	1058	1602	5236	2023
Haryana	1166	662	338	678	1496	1340
Himachal Pradesh	553	--	164	131	717	164
Jammu & Kashmir	530	280	144	306	674	586
Karnataka	3061	1058	901	1719	4762	2777
Kerala*	2642	568	1110	989	3952	1557
Madhya Pradesh	5762	1999	1340	2926	7106	4925
Maharashtra	8637	--	1908	2197	10745	2197
Orissa	2782	858	624	1430	3406	2288
Punjab	2586	--	506	640	2892	640
Rajasthan	3122	2307	764	2393	3886	4700
Tamil Nadu	5926	--	1556	1720	7482	1556
Tripura	215	96	43	145	258	241
Uttar Pradesh*	10742	4399	2187	6539	12929	10938
West Bengal	5591	2601	945	4101	6536	6702

Note : * at 1960-61 - 1975-80 growth rate.

Table 16

Required Growth in Enrolments in India 1980-81 - 1989-90

(Figures in millions)

Year	6-11 age-group		11-14 age group		6-14 age group	
	Enrol-ment	Non-enrolled	Enrol-ment	Non-Enrolled	Enrol-ment	Non-Enrolled
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1979-80 (Actual)	53.2	33.4	11.2	37.5	64.4	70.9
1980-81	56.1	31.4	13.1	36.6	69.6	68.0
1981-82	59.2	..	15.3	..	75.7	..
1982-83	62.5	..	17.5	..	82.0	..
1983-84	65.9	..	20.5	..	86.9	..
1984-85	69.5	..	24.5	..	90.4	..
1985-86	73.4	10.1	28.6	25.6	104.5	37.2
1986-87	77.4	..	33.4	..	113.3	..
1987-88	81.6	..	39.1	..	122.6	..
1988-89	86.1	..	45.7	..	133.1	..
1989-90*	90.4	Nil	53.3	Nil	143.7	Nil

Note : * Assumed to be equivalent to the population (projected) in 1991.

Table 17

Realised and Required Rates of Growth in Enrolments in Elementary Education in India

State	Primary		Middle		Secondary	Higher
	1970-71 to 1979-80	1979-80 to 1989-90	1970-71 to 1979-80	1979-80 to 1989-90	1970-71 to 1970-80	1970-71 to 1979-80
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Andhra Pradesh	3.1	5.1	1.6	22.6	11.2	6.6
Assam	2.3	10.0	2.9	20.5	2.7*	7.3
Bihar	4.9	6.6	2.7	20.6	1.4*	6.0
Gujerat	3.3	4.1	4.6	15.0	4.4	3.9
Haryana	2.9	7.6	2.7	14.3	6.7	2.1
Himachal Pradesh	3.7	2.8	4.5	10.6	1.6	2.6
Jammu & Kashmir	3.3	7.6	4.0	16.5	6.9	4.2*
Karnataka	2.2	4.7	4.3	16.0	4.6	5.4
Kerala	-ve	1.5	5.2	8.1	0.8	4.2
Madhya Pradesh	4.9	8.1	6.1	15.0	3.6	4.9
Maharashtra	3.7	1.9	4.2	12.5	3.5	3.2
Orissa	3.7	6.1	6.3	20.0	5.3	7.7
Punjab	4.4	2.4	3.7	11.1	5.4	10.2*
Rajasthan	4.9	10.9	6.0	22.0	5.6	5.2
Tamil Nadu	2.4	1.4	3.9	12.1	3.0	2.7*
Tripura	3.0	6.9	3.1	19.5	5.0	5.2*
Uttar Pradesh	-ve	8.0	2.7	18.0	4.1	3.1*
West Bengal	2.6	0.7	1.8	20.5	3.9	0.4

Note : * Growth rates refer to 1960-61 to 1979-80

- Rates of growth in this and other tables and throughout the text are annual compound rates of growth (%) computed on the basis of final and base year data.

Table 1o

Enrolment in Education in India, by States 1989-90

(in thousands)

Name of the State (1)	Primary (2)	Middle (3)	Higher Secondary (4)	Higher (5)	Total Elementary (6)	Grand Total (7)
Andhra Pradesh	6347	3599	2090	605	9946	12641
Assam	3714	1960	271	241	5674	6186
Bihar	9214	5310	492	609	14524	15625
Gujarat	4599	2666	940	211	7265	8410
Haryana	1822	1016	164	97	2838	3099
Himachal Pradesh	507	295	123	20	802	945
Jammu & Kashmir	810	450	66	30	1260	1356
Karnataka	4919	2620	590	403	7539	8532
Kerala	3410	2095	1473	355	5505	7357
Madhya Pradesh	7761	4272	752	274	12033	13059
Maharashtra	7464	4165	1657	409	11629	13635
Orissa	3640	2054	462	205	5694	6361
Punjab	1919	1146	505	241	3065	3811
Rajasthan	5429	3147	586	218	8575	9386
Tamil Nadu	5393	3326	1168	151	8719	10058
Tripura	310	186	50	7	496	553
Uttar Pradesh	15141	8726	1770	615	23867	26252
West Bengal	8272	5046	1142	264	13318	14724

On the other hand, if we were to universalise the elementary education by 1990, it requires that the enrolments at primary level at the national level should increase at a compound rate of growth of 5.9% and enrolment at middle at 16.2% and in all the enrolment at elementary level education at 8.4% rate of growth during the 1980s as against 2.0% and 5.3% rates of growth at primary and middle levels respectively experienced during the 1970s. Thus from Table 16 it would be clear that the enrolments will grow from 55.2 million at primary and 11.2 million at middle in 1979-80 to 90.4 million at primary and 53.3 million at middle levels by 1989-90. Thus the number of non-enrolled children will decline from 33.4 million in the age group 6-11 in 1979-80 to 31.4 million in 1985-86 and to 16.1 million by 1985-86 and to zero by 1990. In the 11-14 age-group, the number of non-enrolled children will decline from 37.3 million in 1979-80 23.6 million in 1985-86 and to nil by 1989-90. The rates of growth in several states have to be stepped up very significantly in the 1980s (Table 17). For instance, in Uttar Pradesh the enrolment in primary classes should increase at an annual compound rate of growth of 8%, compared to the negative growth rate experienced in the 1970s, in Assam the required rate of growth is 10% compared to 2.3% of the 1970s and in Rajasthan the corresponding figures are 10.5% and 4.9% respectively. Thus it poses so gigantic a task that one wonders whether universalisation of elementary education would be possible even by the turn of the century.[15]

6. Financial Implications

As we have noted earlier, financial resouces constitute an important constraint in achieving the goal of universalisation of elementary education. Now let us see what are the financial implications of the above analysis.

We have shown earlier that despite the severity of the situation, resources allocated to elementary education have been constantly declining. Though in the first plan elementary education remained a top priority with an allocation of 56% of the total educational outlay, it came down to 35% in the sixth plan.

The total direct expenditure on primary education increased from Rs. 366 million in 1950-51 to Rs. 2365 million in 1970-71 at a compound rate of growth of 9.76%. During this period the index of per pupil expenditure at primary level increased from 100 to 304. As we have pointed out in section 1. this growth in expenditure on education is not totally real.

By 1989-90, the target for enrolment will be 90.4 million in 6-11 age group and 53.3 million in the age group 11-14. Based on the cost-norms given by the Ministry of Education[16] we find that in 1989-90, the direct expenditure shall be Rs. 16000 million for primary level and Rs. 15537 million for middle level --- a total of Rs. 34017 millions at 1979-80 prices as given in Table 19.

It should be noted that this excludes major capital expenditure activities like construction of class rooms and teachers' quarters. Thus excluding major capital expenditure activities like construction of class rooms and teachers' quarters and special incentives for tribal children and also ignoring the expenditure on teacher training etc., we find that in 1989-90 a total of Rs. 34017 millions at 1979-80 prices is required, which would be about of 2.8% of projected GNP in 1989-90 i.e. during 1975-76 to 1989-90, direct expenditure on primary education should increase at a compound rate of growth of 10.5% and at middle level by 11.6% at constant prices,[17] while during 1965-66 to 1975-76 the expenditure on primary and middle levels education increased respectively at a rate of growth of 5.0% and 6.6% at constant prices.

If we consider the problem of backlog the actual expenditure to be incurred becomes much more. The clearance of existing backlog on buildings/class rooms is estimated to cost Rs.8000 millions for the Government (the Government sharing only 50%).

The additional enrolment of 37 million at primary level and 42 million at middle level during the 1980s requires construction of 930 thousand class rooms at primary level and 1403 thousand class rooms at middle level. The Government share being Rs.5,000 per class room, thus in all, including the backlog, it requires that the Goverment should spend Rs.14999 millions during the 1980s on the construction of class rooms.

Taking the existing average size of the schools (100 for primary and 220 for middle), it is estimated that 426 thousand primary schools and 127 thousand middle schools will be added to the existing number of schools during the decade. The cost norms given[19] indicate that quality improvement programmes require an expenditure of Rs. 616 per primary school and Rs.10710 per middle school. Assuming that 50% of the existing schools do not have the facilities included in the quality improvement programme such as science education kit, radio, etc., it can be estimated that resource requirement for the additional

Table 19

Recurring Expenditure on Elementary Education
(at 1979-80 Prices)

(Rs in Million)

Year (1)	Primary (2)	Middle (3)	Elementary (4)
1975-76 (Actual)	4463	3410	7873
1975-76 (at 1979-80 prices)	5866	4438	10246
1976-77	6382	4804	11186
1977-78	6837	5331	12168
1978-79	7377	5843	13220
1979-80	8045	6404	14455
1980-81	8733	7018	15751
1981-82	9476	7692	17166
1982-83	10281	8431	18712
1983-84	11155	9240	21095
1984-85	12103	10127	22230
1985-86	13132	10199	24231
1986-87	14246	12165	26413
1987-88	15459	13333	28792
1988-89	16773	14613	31386
1989-90	18080	15537	34017

Table 20

Secondary and Higher Education in India

	Enrolment (millions)				Direct Expenditure		
	1970-1971	1979-1980	Rate of growth (%)	1989-1990	Per-pupil	at 1979-80 prices	Expr. in 1989-90 at 1979-80 prices (in Millions)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Secondary	7.87	9.09	2.0	11.81	257	534	3945
Higher	2.43	3.37	3.8	4.89	1106	1442	7051

schools and 50% of the existing schools would be Rs. 2519 millions for both the primary and middle schools.

Similarly on the basis of teacher-pupil ratio norms (40 at primary and 30 at middle), we find that 0.99 million primary school teachers and 0.54 million middle school teachers would be additionally required during the decade. The pre and in-service training of these teachers would cost Rs.997 million at the rate of Rs.500 for pre-service and Rs.200 for in-service training per teacher.

Thus a meagre estimate of the total capital cost of elementary education to be incurred during the decade will be of the order Rs. 16,515 millions i.e. Rs. 1652 millions per year on average. From this one can calculate that in 1989-90 elementary education requires in all Rs. 35869 millions (Rs. 34017 millions plus Rs. 1652 millions) at 1979-80 prices.

For secondary and higher levels of education the rate of growth experienced in the 1970s is assumed to continue in the 1980s also. Thus we find that in 1989-90, the enrolment at secondary level would be 11.41 millions and at higher levels 4.87 millions, as given in Table 20. Assuming the 1975-76 cost (direct) structure at these two levels and inflating them to 1979-80 prices, we find that by 1989-90 the direct expenditure on secondary and higher levels will respectively be Rs. 3945 millions and Rs. 7051 millions.

We do not have adequate data on indirect or capital expenditure on secondary and higher levels of education, that we need. The latest figures on capital expenditure (or indirect expenditure) available refer to 1970-71, that too only on buildings and hostels. In 1970-71 Rs. 73.6 millions were spent on buildings and hostels at secondary level and Rs. 252.6 millions at higher level. The Kothari Commission desired that the capital expenditure on secondary education should increase at a compound rate of growth of 10% per annum and on higher education at 16.5% per year during 1975-76 to 1985-86. If we adopt these norms, in 1989-90 the capital expenditure on secondary education will be of the order of Rs. 1278 millions and on higher education Rs.1190 millions. Thus, the total expenditure on education in 1989-90 will be Rs. 60110 millions and this works out to be about 5% of the projected GNP,[20] compared to the existing level of 3.9% in 1979-80. The required yearly progress is shown in Table 21.

Thus at all India level, about 5% of GNP should come from public exchequer for education. As we mentioned in Section 1, this does not

Table 21

Projected National Income and Required Resources for Education in India (at 1979-80 Prices)

(Rs. in 10 millions)

Year (1)	GNP (2)	Resources for Education (3)	(3)/(4)% (4)
1979-80	90173	3500	3.9
81	93059	3696	4.0
82	96036	3903	4.1
83	99110	4122	4.2
84	102281	4352	4.3
85	105554	4596	4.4
86	108932	4853	4.5
87	112418	5125	4.6
88	116015	5412	4.7
89	119727	5715	4.8
1989-90	123560	6011	5.0
Rate of Growth	3.2%	5.6%	

Table 22

Estimated Requirements of Financial Resources for Education 1989-90

(Rs in millions)

Level of Education (1)	Recurring Expenditure (2)	Non-recurring Expenditure (3)	Total (4)
Primary	16080	789	18869(31)
Middle	15937	1064	17001(28)
Higher Secondary	3945	1278	5223(9)
Higher	7051	11966	19017(32)
Total	45013	15097	60110(100)

Table 23

Intra-Sectoral Allocation of Resources in Education (Direct Expenditure) in India

(Rs. in millions)

Level of Education (1)	1950-51 (2)	1975-76 (3)	1989-90 (Target) (4)
Primary	366(40)	4463(25)	18060(40)
Middle	77(8)	3410(19)	15937(37)
Secondary	291(32)	4636(26)	3945(9)
Higher	184(20)	5410(30)	7051(16)
Total	921(100)	17925(100)	45013(100)

Source : Cols 2 & 3 : Tilak (1980)
Col. 4 : See the text

include household expenditure on education, except to the extent of fees. The household expenditure on education as per NSS figures, constitutes 1.2% of GNP in 1979-80, as compared to 2.4% of GNP in 1970-71. In absolute terms, it increased from Rs.3200 million in 1970-71 to Rs. 5000 million in 1979-80 (at 1970-71 prices), registering an annual rate of growth of 6.2% during this period (see Table 5). If the same rate of growth continues during the 1980s, the household expenditure can increase only upto Rs. 21,343 million by 1989-90 (at 1979-80 prices), which will be just 1.7% of GNP. We feel, as Chelliah (1982) suggested, at least 2% of GNP if not 2.4% as in 1970-71, should come from household sector by 1989-90 for education, i.e. Rs. 24,000 millions, which thus requires the household expenditure to grow at a rate of 1.5% per annum during the 1980s. Thus in all, 7% of GNP should be spent on education --- 5% from public exchequer and 2% by household sector.

The financial implications for various states are manifold. We started adopting the cost structure at the national level for primary and middle levels and applied it uniformly for all States and worked out the resources required for universalisation of elementary education by 1989-90. At the secondary and higher levels we followed, (as detailed data are available by states), a slightly different method. The direct expenditure per pupil in secondary levels of education was worked out for all states for the year 1975-76 and then they are converted into 1979-80 prices.[21] We also estimated the rates of growth in enrolment at secondary and higher levels in various states during 1970-71 to 1979-80. These rates of growth have been used for projecting the likely enrolment in various states in 1989-90 in secondary and higher levels. Thus using the estimates of costs and enrolments thus projected, the requirement of resources on recurring account for 1989-90 have been estimated.

With regard to indirect expenditure on education (not divisible by levels), the ratios of indirect expenditure to direct expenditure in 1975-76 in various states (which is assumed to be constant until 1989-90) are used for estimating total indirect expenditure on education in the states in 1989-90.

Thus the total financial requirements for education in 1989-90 by states are worked out and they are presented in Table 24. Depending upon the availability of data on State income (SDP) at constant prices[22] we estimated the rate of growth in SDP for the period 1966-67 to 1976-77 for various states. These rates have been used for projecting the SDP in 1989-90 (at 1979-80 prices).

Table 24

Resource - Requirement for Education in India, 1985-90
(at 1979-80 Prices)

(Rs. in millions)

Name of the State	Primary	Middle	Elementary (2)+(3)	Higher Sec.	Higher	Total	Total indirect	Grand Total	Grand Total as of % Gdp
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Andhra Pradesh	1289	1190	2479	754	563	3796	190	3986	5.1
Assam	755	642	1397	74	336	1807	271	2078	5.6
Bihar	1870	1722	3596	115	740	4453	668	5121	6.5
Gujarat	949	795	1744	348	261	2353	400	2753	3.5
Haryana	375	345	720	38	125	883	106	989	2.4
Himachal Pradesh	105	91	196	52	68	316	28	344	3.6
Jammu & Kashmir	163	135	298	16	56	370	126	496	4.6
Karnataka	1006	783	1789	238	394	1421	387	2008	4.0
Kerala	702	630	1332	504	616	2452	221	2673	7.3
Madhya Pradesh	1571	1383	2954	377	427	3756	2442	6200	9.8
Maharashtra	1526	1251	2822	631	628	4081	531	4612	2.6
Orissa	732	630	1368	161	346	1897	285	2182	6.5
Punjab	390	382	772	149	613	1534	291	1825	2.5
Rajasthan	1113	1039	2152	287	511	2950	207	3157	6.9
Tamil Nadu	1069	1095	2164	400	263	2677	488	3165	3.8
Tripura	63	62	125	29	9	163	31	194	6.6
Uttar Pradesh	3096	2892	5988	520	937	7443	1535	9370	6.8
West Bengal	1686	1720	3406	246	201	3993	569	4562	5.3

Table 25

Required Rate of Growth in Educational Expenditure

(Rs. in millions)

State	Total Expenditure on Education in 1975-76	1975-76 Expenditure on Education at 1979-80 prices	Educational Expenditure in 1989-90	Required Rate of Growth (%) 1975-76 to 1989-90
(1)	(2)	(3)	(4)	(5)
Andhra Pradesh	1204	1567	3966	6.9
Assam	465	605	2070	9.2
Bihar	1055	1373	5121	9.9
Gujarat	1237	1657	2753	3.7
Haryana	389	506	709	2.5
Himachal Pradesh	246	320	344	0.5
Jammu & Kashmir	205	267	496	4.6
Karnataka	1256	1635	2806	4.0
Kerala	1390	1807	2073	2.0
Madhya Pradesh	1750	2278	6200	7.4
Maharashtra	2785	3625	4612	1.7
Orissa	636	828	2162	7.2
Punjab	875	1139	1625	3.4
Rajasthan	839	1092	3157	7.9
Tamil Nadu	1631	2123	3165	2.9
Tripura	87	113	194	4.0
Uttar Pradesh	2549	3317	9378	7.7
West Bengal	1256	1635	4562	7.6

Table 26

Intra-Sectoral Distribution of Resources in Education
(1975-76 and 1989-90)

(percent)

State (1)		Primary (2)	Middle (3)	Elementary (4)	higher Sec. (5)	Higher (6)	Total Direct (7)	Total Indirect (8)	Grand Total (9)
Andhra Pradesh	A	28.9	11.6	40.4	26.7	25.7	94.5	5.1	100
	B	32.3	29.9	62.2	16.9	14.1	95.2	4.8	100
Assam	A	30.3	12.7	43.0	21.7	21.9	87.0	13.0	100
	B	36.3	30.9	67.2	3.6	16.2	87.0	13.0	100
Bihar	A	27.7	19.3	47.0	13.6	26.4	87.0	13.0	100
	B	36.0	33.6	70.3	2.3	14.5	87.0	13.0	100
Gujarat	A	8.6	33.0	41.6	23.7	20.5	85.5	14.5	100
	B	34.5	29.0	63.4	12.6	9.5	85.5	14.5	100
Haryana	A	16.2	9.5	27.8	36.6	25.0	89.3	10.7	100
	B	37.9	34.5	72.9	3.6	12.8	89.3	10.7	100
Himachal Pradesh	A	17.9	22.4	40.2	32.9	18.7	91.7	8.3	100
	B	30.5	26.5	57.0	15.1	19.8	91.7	8.3	100
Jammu & Kashmir	A	13.6	18.5	32.2	22.4	20.0	74.6	25.4	100
	B	32.9	27.2	60.0	3.2	11.3	74.6	25.4	100
Karna-taka	A	13.9	27.1	41.0	14.8	30.2	86.2	13.8	100
	B	35.8	27.5	63.7	8.5	14.0	86.2	13.8	100
Kerala	A	21.3	20.1	41.5	32.4	18.0	91.7	8.3	100
	B	26.3	23.6	49.8	18.9	23.1	91.7	8.3	100
Madhya Pradesh	A	22.6	10.7	33.3	13.8	13.7	60.7	39.4	100
	B	25.3	22.3	47.7	6.1	6.9	60.6	39.4	100
Maha-rashtra	A	14.0	25.2	39.1	26.8	22.6	88.5	11.5	100
	B	33.1	27.1	61.2	13.7	13.6	88.5	11.5	100
Orissa	A	35.4	13.6	49.2	18.9	18.8	86.9	13.1	100
	B	33.6	29.2	62.7	8.3	16.0	86.9	13.1	100
Punjab	A	15.1	9.0	24.1	28.1	28.1	84.1	16.0	100
	B	21.4	20.9	42.3	8.2	33.6	84.1	16.0	100
Rajasthan	A	22.9	23.5	46.4	25.5	21.3	93.5	6.5	100
	B	35.3	32.9	68.2	9.1	16.2	93.5	6.5	100
Tamil Nadu	A	26.6	15.8	42.4	27.2	21.5	90.9	9.1	100
	B	34.4	34.6	69.3	12.6	8.9	90.9	9.1	100
Tripura	A	23.0	16.1	39.1	33.3	11.5	83.9	16.1	100
	B	32.5	32.0	64.0	15.0	4.6	84.0	16.0	100
Uttar Pradesh	A	25.7	8.6	34.2	25.0	20.0	79.3	20.7	100
	B	33.0	30.8	63.8	5.6	10.0	79.4	20.6	100
West Bengal	A	26.7	3.7	30.4	27.2	28.9	87.5	12.5	100
	B	37.0	37.7	74.7	5.4	6.2	87.5	12.5	100

Note : A - 1975-76; B - 1989-90

Many of the states, it may be noted, have to step up their educational expenditures as a proportion of their respective SDPs by 1985-90 from the existing levels. Except Jammu & Kashmir all the educationally backward states have to allocate much more than 5% (required at national level) of their SDPs. For instance, Assam, has to allocate 5.6% of SDP for education in 1985-90, Madhya Pradesh 5.6%, Bihar 6.5%, Rajasthan 6.9% and Uttar Pradesh 6.9% and it may be noted that these figures are substantially higher than what the states have actually been allocating now. Jammu & Kashmir already spends about 4.5% of SDP on education (1975-76). Our analysis also indicates that if this proportion is more or less maintained upto 1989-90, Jammu & Kashmir will be able to meet the target of universalisation of elementary education by the end of 1980s. Further, the figures on other states also indicate that the rates of growth in educational expenditure in the backward States in the 1980s should be much higher than the rates of growth experienced during the 1960-61 to 1975-76, as we notice in Table 25. Further, as the figures in Table 26 indicate, it also requires a drastic reallocation of resource in favour of primary and middle levels of education.

7. Conclusions

The primary objective of the study was to analyse the financial implications of achieving the target of universalisation of elementary education by 1990 in India. In section 1 we focussed our attention on the general allocation pattern of resources to education. An attempt was also made to closely analyse the intra-sectoral allocation among different levels within the educational sector. We have found that allocation pattern showed a consistent trend of shifting the emphasis from elementary education to the other levels of education especially to higher education. Universalisation of elementary education, in a comprehensive sense, involves (i) universal provision of facilities, (ii) universal enrolment and (iii) universal retention. However in the present paper, we confined to (ii) only.

In section 2 we critically reviewed our performance in the field of universalisation of elementary education till 1980 which showed that we have miles to travel to reach the target. Section 3 analysed the prospects of this goal in the present decade. Comparing the projected targets of the Planning Commission with the actual figures, we found that more than 40 million children in the age group of 6-14 will be out of school by the end of 1985-86. Assuming the same rate of growth in enrolment that was experienced in the seventies, it was

noted that by 1991 not less than 30 million children will be uncovered by the school system. We found that if at all the target of universalisation is to be achieved by 1990, the enrolments at the primary level should increase at a compound rate of growth of 5.5% for primary and 10.9% for middle or at an overall compound growth rate of 8.4% at elementary level during the present decade.

In the remaining part of the paper we tried to draw the financial implications of the above analysis. The study leads us to conclude that the resources allocated for education in India have been grossly inadequate to meet the educational targets laid down in the Constitution of India and in the subsequent plan documents. One of the reasons for the under-spending on education could be that the expenditures on education are still treated as "welfare" expenditures and not as 'investment' expenditures that result in (human) capital formation.[23]

Secondly, while we are aware that higher education is essential for the orderly development of developing countries (Schultz, 1981 and 1982), the relatively less emphasis given to elementary education vis-a-vis higher education in India left us far away from the goal of universalisation of elementary education.

The major policy implications that stem from our analysis are as follows:-

i) By 1989-90 the enrolment targets will be 90.4 million in 6-11 age-group and 53.3 million in the age-group 11-14. This requires an increase at a compound rate of growth of 5.5% at the primary level and 10.9% at middle level. Given the past growth rates in enrolment, this is a difficult task.

ii) Based on the cost norms given by the Ministry of Education we worked out the direct expenditure on education. It is found that in 1989-90, the direct expenditure should be Rs.18080 million for primary level and Rs.15,937 million for middle level i.e. a total of Rs.34017 million (at 1979-80 prices) for the elementary level as a whole. This means that 2.0% of the projected GNP shall have to be spent on direct expenditure items alone, on elementary education, if universalisation is to be achieved by the turn of the present decade.

iii) This shows that the growth rate (compound) of direct expenditure during 1975-76 to 1989-90 should be 6.7% at primary level and at the middle level by 9.6% at constant prices. When compared against the

rates of growth experienced in the preceeding decade (1965-66 to 1975-76), 5% at primary and 6.6% at middle, the possibility of provision for a sudden spurt in the expenditure is not beyond doubt. Our projected growth rates become under estimates if we consider the fact that the growth of expenditure projected was from 1975-76 and we have already covered 7 years when the actual expenditure could be far below the projected rates. This implies that the expenditure in the remaining years of the present decade should increase at a faster rate than that of the projected rates of 8.7% and 9.6% at primary and middle levels respectively.

iv) Given the extent of backlog on building and classrooms, the requirements for 1980s for the additional class rooms show that we have to construct 3.9 million class rooms at the primary and middle levels (0.93 million for primary level and 1.4 million for middle level), including 1.6 million class rooms of backlog. On the basis of the cost sharing norms given by the Ministry of Education, this works out to be Rs.14,569 million during the 1980s.

v) On the basis of existing teacher-pupil ratio, the additional financial burden for the incoming new teachers on pre-and in-service training would be to the tune of Rs.[illegible] million, and another Rs.2515 million on quality improvement. Thus in all, the non-recurring expenditure on these items at elementary education level will be Rs.16,515 million for the decade, i.e. 1652 million per year on an average.

vi) The total expenditure as worked out, inclusive of recurring and non-recurring, works out to be Rs.35,67[illegible] million for elementary education by 1989-90.

vii) To find out the total educational expenditure we projected the expenditure at secondary and higher levels under the assumption that these two levels will have the same rates of growth of enrolment as they have experienced in the seventies. It was found that enrolment at the secondary level by 1989-90 would be 11.41 million and at higher level 4.69 million. Assuming 1975-76 cost structure, these two levels of education would cost Rs.3944.5 million and Rs.7,051 million respectively at 1979-80 prices.

viii) On the basis of the rate of growth on capital expenditure given by Kothari Commission, the capital expenditure works out to be Rs.1278 million at secondary and Rs.11966 at the higher education level in

1989-90. Thus the total (recurring and non-recurring) expenditure on secondary and higher education would be Rs.24,240 million in 1989-90.

ix) The total resource allocation to education as required by our estimates for the year 1989-90 at 1979-80 prices is Rs.60,110 million. Assuming the 3.2% compound rate of growth of national income at constant prices (the same rate we achieved between the years 1969-70 and 1979-80) the projected educational expenditure works out to be 5% of the projected GNP.

x) The intra-sectoral allocation of resources (direct expenditure) in 1989-90, as per our projection would be 40% to the primary, 35% to middle, 9% to the secondary and 16% to the higher education as compared to 25% to primary, 15% to middle, 26% to seconuary and 30% to higher education in 1975-76. All this shows that it requires a radical re-allocation of resources in favour of elementary education. Thus the universalisation of elementary education by 1990 requires not only 5% of the GNP to be allocated to educational sector this estimate, however, comes closer to the norm (5% of the GNP) as suggested by Raja Chelliah recently.[24] but also 75% of the total educational allocation to the elementary level.

xi) We also felt that by 1989-90 the contribution of household sector to educational expenditure should be raised to 2% of GNP from the existing level of 1.5%. So that in all 7% of GNP is spent by the end of the seventh Five Year Plan on education.

xii) The state-wise analysis showed certain interesting features. It confirms the general feeling that the problem of universalisation of elementary education in India is essentially the problem of the 5 backward States viz. Andhra Pradesh, Assam, Bihar, Jammu & Kashmir, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh and West Bengal. For the country to achieve the goal of universalisation, these States should step up their rates of growth in enrolment very significantly from the recently experienced rates of growth. The required rates of growth in primary education for these 9 States vary in between 5.1% in Andhra Pradesh to 10% in Assam, compared to 5.5% at all India level. Excepting Andhra Pradesh in all other States the required rates of growth are above 6%. The required rate of growth in middle level education is as high as 20% in Bihar and more than 20% for a good number of states (like Assam, Andhra Pradesh, Orissa, Rajasthan and [illegible]

xiii) In order to compensate for low level of expenditure made in the past by the backward states, these backward state have to spend substantially more in the 1980s on education. The required rate of growth in educational expenditure is as high as 9.5% in Bihar and 9.2% in Assam. Except in Jammu & Kashmir, in all other states, the educational expenditure should grow at a compound rate of growth of more than 6.6% per annum.

xiv) In other words, educational expenditure as a proportion of SDP requires to be raised steeply from the existing levels. The target proportion varies in between 2.5% in Punjab to 9.0% in Assam. All the backward states except Jammu & Kashmir have to allocate more than 5% of their respective SDPs.

Limitations:

It is prudent to end here by noting some of the important limitations, the estimates and projections made in our analysis carry with. They are as follows:

i) Though the importance of household expenditure is undisputed, we could not incorporate it in our analysis because of non-availability of data. In this sense our main analysis is restricted only to the study of public expenditure on education.

ii) The growth rates we projected were for the years 1975-76 to 1989-90. And in the interim period till 1983, the actual growth rates experienced might be far less than our projected rates. Therefore, to achieve the targets by 1990, the expenditure in the remaining years of 1980s should increase at a much faster rate than what we have projected. In this context our estimates of growth rates are under estimates.

iii) All our projections and estimates are based on 1971 Census, which by themselves are believed to be under estimates in the light of the 1981 Census. In this sense also, our estimates on expenditure and enrolment are under estimates.

iv) The term public expenditure we used here includes fees paid by the students and donations and endowments received from non-governmental organisations and individuals and expenditure incurred by [illegible]. This is not true with respect to our analysis on

expenditure on education, this includes the 'fees' component which has already been included in the public expenditure.

v) Further, we have not focussed our attention onvocationalisation aspects of secondary education, as our main emphasis was on elementary education.

vi) Above all, the study carries with an important limitation. The study focussed on formal system of education alone. If a substantial part of the present out-of-school children are to be covered under non-formal system of education, which costs less, the total financial requirements would be less than what we have estimated here.

vii) While it is important to examine the ways and means of mobilising the required resources for education, it is outside the scope of this paper.

Finally, as pointed out earlier, the attempt of the study was only to highlight the financial implications of achieving the target of universalisation of elementary education by the year 1990. It is to be noted that "money no doubt is needed for educational reform, but money alone, whatever its quantum, can never achieve the goal" (Naik, 1962 : 173). In other words, though finances are an important constraint, it is only one among the many; other factors fall in the social and political domain. This study, however, does not highlight or discuss these factors. Therefore, the results of the study should be interpreted in this restricted framework only.

We conclude that the universalisation may not be possible by 1990 unless the expenditure on education grows at least at the projected rate, though this by itself will not ensure universalisation of elementary education in the country. In other words, the analysis of the study only forms a necessary condition and of course, not a sufficient condition for universalisation of elementary education by 1990. Its actual achievement depends on the political will and the social pressures together with the availability of adequate financial resources.

NOTES

1. We concentrate in this study on 16 major states of the country, due to unavailability of required data on other states and union territories. Interestingly these 16 states constitute about 94% of the total public expenditure on education in the country and 97% of non-enrolled (6-14) children in the country.

2. Expenditure at current prices are converted into constant prices, using the all-India wholesale price index and the state income deflators, depending upon the availability of data. This is catainly not the best method, as the commodities that enter the educational activity constitute a minor component of the basket of commodities, that is used to construct the wholesale price index. More importantly the relative weightage of the commodities would differ quite significantly. Hence the wholesale price index cannot serve the purpose adequately. But in the absence of appropriate price indices to convert the educational expenditure into constant prices, which is widely felt [(see e.g., Robbins Commission (1963) and Education Commission (1966 : 659)], we have no other alternative but to use it. See Pandit (1972) and Shriprakash (1978) who also used similar indices in similar contexts. Readers may also refer to Wasserman (1963) and OECD (1979) which form the few of those studies that attempted at constructing educational price indices.

3. For example, the corresponding figures are much above 6% for developed countries (more than 8% for Canada, the Netherlands, etc.) and among the less developed countries it is 5.5% for Kenya and 7.7% for Madagascar. However among several Asian developing cuntries the proportion is much less than 5%.

4. See Majumdar (1983) for a discussion on complimentarity between individual and institutional decision making in investment in educaion.

5. See Appendix - I for a note on household expenditure on education.

6. See also Raj (1971) who points out that giving priority to elementary education is necessary in a country where three-fourths of the labour force is engaged in agriculture and small

scale industry; without the minimal advantage of literacy, economic advance based on 'necessary and acceptable technological changes' would be difficult to achieve.

7. See Noor (1981) who has explained clearly the reciprocal relationship between the elementary education and other basic needs.

8. See Tilak & Chaudhri (1981). See also UNICEF (1981-55).

9. Gross enrolment ratios are those which are not adjusted for over and under-aged children enrolled. Hence, for instance, J.P. Naik (1975) felt that universalisation of elementary education requires 130% gross enrolment ratios. See also Kurien (1982).

10. See Tilak & Chaudhri (1981).

11. It is to be noted that the data on Population; and more specifically on school going-age-group population that are used in this paper are based on the Report of the Expert Committee on Population Projections. Those Projections are based upon the 1971 census. On the other hand if 1981 census data are used one will arive at marginally higher estimates of population in the 1980s; and as such it should be noted that all our projections are under estimates.

12. A recent document of the Ministry of Education (Mandari, 1982) notes that the rate of growth at best could be raised to 3.0 million per annum in the remaining three years of the plan period, compared to about 2.7 million during the first two years of the plan.

13. It may be noted that no adjustment has been made for enrolments at secondary and higher levels of education.

14. Uttar Pradesh and Kerala experienced negative growth rates in enrolments during the 70s. However these two states reflect two different situations: while Uttar Pradesh reflects poor achievement in the enrolment drive, Kerala reflects a saturation point, the rate of growth of population of school going age-grouping also being declining.

15. A recent exercise on projections (Saraf, 1981) shows that it takes upto A.D.2000-2001 for universalising primary education itself and nobody knows about universalisation of elementary education. See also Veeraraghavan (1981).

16. Costing Pattern (Rs. per pupil per annum)

	Primary	Middle
Teaching Cost	150	240
Equipment	15	15
Incentives	20	20
Other non-teaching cost (10% of teaching cost)	15	24
TOTAL COST PER PUPIL	200	299

17. Since the growth rate experienced between 1975-76 to 1981-82 was much less than the projected rate, to achieve universalisation in the remaining years of this decade the rate of growth should be much higher than 10.5% at primary and 11.6% at the middle level.

18. Report of the Working Group on Education & Culture.

19. Expenditure Norms on Quality Improvement

(Rs. per school)

	Primary	Middle
Science Education (Kit)	300	10,000
Introduction of Socially Useful work	300	300
Educational Technology & Radio	200	200
Strengthening Supervision and Administration (2% of the total cost)	16	210
T O T A L	816	10,710

20. The national income at constant prices increased at a compound rate of growth of 3.2% during 1965-70 to 1975-80. Assuming that the same rate of growth continues in 1980s, the national income is projected for 1985-90 at 1975-80 prices.

21. While it would be proper to use state income deflators, as we used earlier for another purpose (Table 4), constrained by the unavailability of these deflators upto 1975-80, we used the all-India whole-sale price index for this purpose.

22. The educational expenditure given in current prices in 1960-61 and 1975-76 are converted into 1960-61 (constant) prices using the price deflators given by V.K.R.V.Rao (1976).

23. Incidentally, it is only in the Draft National Policy on Education (1979), the 'investment' concept is used.

24. Raja Chelliah (1982) favoured that atleast 5% of GNP should be allocated for education from public exchequer and another 2% of GNP should come from household sector at least by the end of the Seventh Five Year Plan (1985-90).

Appendix - I

HOUSEHOLD EXPENDITURE ON EDUCATION

Most studies on educational finance in India, for that matter in many countries, have been confined to public resources only. However, in some cases the 'public' resources include governmental resources and also some private resources, specifically the fees, the donations and endowments. But, little attempt has been made to include the other more important parts of private expenditure viz. (i) out of pocket costs on education excluding fees, such as the maintenance expenditure, expenditure on books, stationery, transport, uniforms, hostel etc., and (ii) the foregone earnings. Hence to say that 3.9% of GNP is spent on education in India in 1975-80 presents only a partial picture.

There are very little reliable data on private or household expenditure on education. In fact the few sources of data on private expenditure on education in India can be classified into two categories: (a) The National Sample Survey (NSS) and (b) random surveys conducted by individual researchers and institutions.[1] The NSS data gives only an aggregate picture, unclassified by levels of education, and not divided by objects of expenditure. On the other hand, the individual surveys relate to micro level and they fail to present a truely national scene, nor the data collected by different researchers following different methods, are comparable across regions or over time.[2] However we use here one recent micro level study conducted by one of the authors of this paper (Tilak, 1980).

A modest estimate of the household expenditure on education in India based on NSS data shows that, it constitutes 1.9% of the GNP. In fact, over the seventies its proportion declined from 2.5% in 1970-71 to 1.5% by 1979-80 (Table 5 in the Text). Based upon another field level data (Tilak, 1980) an estimate of out of pocket costs on education as shown in Table 1, turns out to be Rs. 31641 millions in 1979-80 i.e. about 3.5% of GNP. The foregone earnings constitute another 4.2% of GNP as given in Table 2. Thus the private expenditure far exceeds the public expenditure (see also Schultz, 1961 : 41). In a labour surplus economy characterised by educated unemployment, even if we ignore the whole foregone earnings, we can conclude that about 7.4% of GNP is spent on education in India. What is true of India is also true of countries in general : total resources devoted to education are seriously under-estimated.

Appendix Table 1

Private Expenditure on Education, India, 1979-80

	Private Expenditure (Rs. per pupil per annum	Col. (2) inflated to 1979-80 prices	Enrolment in 1979-80 (in millions)	Total Private Expenditure (Rs. in millions)	% of GNP
(1)	(2)	(3)	(4)	(5)	(6)
Primary	260	326	70.9	23252	2.60
Secondary	236	279	26.1	7640	0.90
Higher	1417	1660	3.4	548	0.06
Total				31841	3.56

Source : Col. 2 : Tilak (1980)
Col. 4 : Educational Statistics at a Glance 1979-80

Appendix Table 2

Opportunity Costs of Education

	Average Opportunity cost per pupil (Rs. per annum 1977-78)	Col. (2) inflated to 1979-80 level	Enrolment in 1979-80 (in millions)	Total Opportunity cost (Rs. in millions)	Col.(5) as % of GNP
(1)	(2)	(3)	(4)	(5)	(6)
Primary	126	148	70.9	10493	1.2
Middle	300	351	18.7	6564	0.7
Secondary	992	1162	9.4	10870	1.2
Higher	2531	2962	3.4	10045	1.1
Total				37982	4.2

Source : Same as Appendix Table 1.

It is generally argued that for planning purposes it is sufficient for the State to know about the availability of public resources for education. This is not wholly true. It is equally important for the State to have a clear idea of the opportunity cost of education and the extent to which individuals will be ready to meet their opportunity cost. This information is absolutely essential to make proper planning of resources for education in general, and to plan for public expenditure on scholarships, stipends, free studentships, etc. in particular. Ignoring these aspects is too costly resulting in a wide gap between the expected (or planned) enrolments and the actual enrolment. For instance, a substantial part of the problems of non-attendance and the drop outs in school education could be attributed to ignoring the aspects on private expenditure and opportunity cost in the resource planning.

Notes to Appendix

1. Important studies on private costs of education include Shah (1963), Kothari (1966), Khusro (1967) etc. See Veeraraghavan & Tilak (1968) for a brief survey of studies on private costs of education in India.

2. See Tilak (1985) for more details.

Appendix II

Costing Pattern of Elementary Education : Provided by the Ministry of Education

		Norms
1.	Expansion of Facilities :	
a)	Full-time (Teaching Cost) i) Classes I - V	Rs.150 per student on the basis of the average annual salary of Rs. 6000 per teacher and teacher-pupil ratio of 1:40.
	(ii) Classes VI - VIII	Rs. 240 per student on the basis of the average annual salary of Rs. 7200 per teacher and teacher-pupil ratio of 1:30. (In the Sixth Plan an economy cost of Rs. 150 per student was taken on an average for the elementary stage as a whole as cushion exists in the present teacher pupil ratio (surplus teachers) and the initial cost of a new teacher appointed for less than a year was usually estimated to be around Rs. 5400 for the financial year and the teacher-pupil ratio was taken as 1:35. For tribal areas, the cost per student was taken as Rs.200 on the basis of a lower teacher-pupil ratio of 1:25).
b)	Part-time Non-Formal Education (6-14 age group)	Rs. 104 per annum per child.
c)	Non-teaching cost	10% of the total teaching cost for non-tribal areas and 25% in case of tribal areas.
2.	Equipment	Rs. 15 per student.
3.	Construction of Class Rooms	Government share of the contribution comes to Rs. 3000 per class room.
4.	Incentives	Rs. 20 per studnet.
5.	Teachers, Quarters	Rs. 15000 per quarter.

6.	Ashram Schools in Tribal Areas	a) Non-recurring : Rs. 0.1 million per school, b) Recurring : Rs. 500 per child and Rs. 1000 per annum non-recurring expenditure per child.
7.	Teachers' Training	
	i) Pre-Service	Average Rs.300 per teacher.
	ii) In-Service	Rs.200 per teacher.
	iii) Improvement of Existing Teacher Training Institutions	Rs.50000 per institution.
8.	Quality Improvement	
	a) Science Education	Rs. 300 per kit per primary school and Rs. 10000 per kit per middle school.
	b) Introduction of socially useful productive work	Rs. 300 per school.
	c) Educational Technology and Radio support	Rs. 200 per school.
	d) Strengthening of State Institutes of Education and SCERTs	Rs. 0.4 million per institution.
	e) Strengthening of supervision and administration	2% of the total cost.

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